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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,348	07/17/2003	Alex Behfar	BIN 5/Div	8683
7590	07/21/2005		EXAMINER LEE, HSIEN MING	
George M. Cooper Jones, Tullar & Cooper, P.C. P.O. Box 2266 Eads Station Arlington, VA 22202			ART UNIT 2823	PAPER NUMBER

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,348

Applicant(s)

BEHFAR ET AL.

Examiner

Hsien-ming Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10, 11, 16-19, 21, 22 and 25-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-18, 25-34 and 36-39 is/are allowed.
- 6) ☒ Claim(s) 10, 11 and 40 is/are rejected.
- 7) ☒ Claim(s) 19, 21, 22 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

HSIEN-MING LEE
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Remarks

1. Applicant's cancellation to claims 12-15, 20, 23 and 24 is acknowledged. Claims 10, 11, 16-19, 21-22, 25-40 are pending in the application.
2. The objection to claims 10-12, 112-second-paragraph rejection to claim 12 and 102(e) rejection have been withdrawn in response to applicant's amendment.

Claim Objections

3. Claim 35 is objected to because of the following informalities: the term "the group comprising" should be -- a group consisting of --. See M.P.E.P. 2173.05(h) Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 40 is rejected under 35 U.S.C. 102(e) as being anticipated by Matsuura et al. (US 2001/0016247).

Matsuura et al. in Fig.26 and related text, teach a structure, comprising:

- a first lithographically-defined layer 31a (i.e. a first photosensitive resist layer);
- a second lithographically-defined layer 31b (i.e. a second photosensitive resist layer) on top of said first lithographically-defined layer 31a; said second lithographically-defined

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layer 31b being mechanically supported by first lithographically-defined layer 31a;
wherein said lithographically-defined layers are periodic in a direction parallel to each other.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura et al. (US 2001/0016247) in view of Clevenger et al. (US 6,452,110).

In re claim 10, et al., Matsuura et al., in Fig.26 and related text, teach a three-dimensional laminate structure, comprising:

- a first lithographically-defined layer 31a (i.e. a first photosensitive resist layer);
- a second lithographically-defined layer 31b (i.e. a second photosensitive resist layer) on top of said first lithographically-defined layer 31a; said second lithographically-defined layer 31b being mechanically supported by first lithographically-defined layer 31a.

Matsuura et al. do not teach that at least one of the lithographically-defined layers is a conducting polymer.

Clevenger et al., in an analogous art, teach using conducting polymer as the lithographically-defined layer for masking or lithographical purpose (col. 2, lines 44-45, col. 4, lines 55-56 and col. 5, lines 11-15).

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Therefore, it would have been obvious to one of the ordinary skill in the art, at the time the invention was made, to use the conducting polymer, as taught by Clevenger et al, in the structure of Matsuura et al., since by this manner it would reduce processing time (col. 2, lines 48-50, Clevenger et al.).

In claim 11, Matsuura et al., teach a layer 33a positioned at an interface between said first 31a and second 31b lithographically-defined layers, wherein the layer 33a acts as a barrier film because the layer 33a would hinder or suppress the mixing in the coating step and developing step of the first and second photosensitive layers adjacent to each other (paragraph [0096]).

(note) Claim 11 has not been treated the amended limitation “photosensitive” on its merits since the limitation “photosensitive” is a new matter as described as follows.

Response to Amendment

8. The amendment filed 5/4/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: “a photosensitive barrier film” (**claim 11**) and said barrier layers is a photosensitive material” (claim 19).

The most related text to the barrier film in the specification is on pages 20-21, where it describes how the barrier film is made. The text, however, does not expressly or inherently indicate that the barrier film is a photosensitive.

Applicant is required to cancel the new matter in the reply to this Office Action.

Allowable Subject Matter

9. Claims 16-18, 25-34 and 36-39 are allowed.
10. Claims 19, 21, 22 would be allowable if rewritten to overcome the new matter issues, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
11. Claim 35 would be allowable if rewritten to overcome the objection, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
12. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither teaches nor suggests the first layer of lithographically definable material being individually and partially exposed lithographically to define an arbitrary first layer pattern corresponding to the shape of a first level of the multilevel optical coupler and additional lithographically definable material being individually and partially exposed lithographically to define vertically aligned arbitrary pattern corresponding to the shapes of respective levels of the multilevel optical coupler (claim 25) and the patterns defining vertically aligned and at least partially overlapping layers, the pattern of each lithographically-defined layer corresponding to the shape of a corresponding level of the multilevel structure (claim 26).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-ming Lee whose telephone number is 571-272-1863. The examiner can normally be reached on Tuesday-Thursday (8:00 ~ 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hsien-ming Lee
Primary Examiner
Art Unit 2823

July 19, 2005

HSIEN-MING LEE
PRIMARY EXAMINER

